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The Role of Project Management in achieving Environmental Sustainability in Construction Projects in Makkah Al-Mukarramah

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Abstract

This study dealt with identifying the extent of the impact of the role of project management in achieving environmental sustainability in construction projects in Makkah, where the study aimed to formulate a general concept of sustainable project management. And take into account the principles of sustainability in the field of project management. Know the expected effects of integrating sustainability principles into project management processes and activities. In light of the results of the study, the researcher relied on the use of the descriptive analytical method, the questionnaire was used, the random sample was selected, and the statistical package (SPSS) was used in the statistical analysis, and the sample was distributed (150). It was clear from the results that there is a statistically significant relationship between the axis of site sustainability, age and the axes of the study, and when studying the relationship between years of experience and the axes of the study, there is a statistically significant relationship between the axis of site sustainability and years of experience, and when studying the relationship between the job title and the axes of the study, there is a statistically significant relationship between the axes of the study and the variable of the job title, where the grades rise with other jobs and fall with project managers and executive engineers. One of the most important recommendations reached by the study is that construction projects of all diversity and differences should seek to move towards integrated sustainable social responsibility, but there must be an integrated vision for the sustainability of construction projects. It is necessary to achieve an Arab partnership for the sectors of construction projects to achieve sustainability within an organized network for sustainability that works to follow up and implement sustainable development goals and to benefit from the experiences and expertise of the Gulf countries, and that governments strive to spread the culture of integrated sustainable development on a large scale.

Keywords: *Project Management – Environmental Sustainability – Construction Projects – Project Environmental Performance.*

Introduction

Project management is one of the key elements to achieve environmental sustainability in construction projects, as it aims to improve resource efficiency and reduce the negative environmental impacts of projects. One of the important tasks of project management to

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achieve environmental sustainability in construction projects is the importance of setting environmental goals, so project management must set clear and specific environmental goals and ensure that environmental sustainability is achieved in the project. These objectives can be achieved by defining and periodically applying the project's environmental standards.

Energy saving standards should be applied, project management should apply energy saving standards in the project and motivate project stakeholders to adopt environmental management methods and save energy consumption.

The importance of raising awareness of environmental issues Project management can achieve environmental sustainability by raising awareness of the importance of preserving the environment and increasing awareness among project customers of environmental issues and urging them to actively participate in achieving environmental sustainability in the project.

In short, project management can achieve environmental sustainability in construction projects by focusing on a positive environmental footprint by setting environmental goals, analyzing the project's impacts on the environment, applying sustainable building techniques, conserving energy, promoting the use of renewable energy sources and educating customers about the importance of renewable energy. Environmental friendliness.

Recently, social, economic and environmental challenges have become increasingly complex, forcing organizations to innovate, manage change and adopt new actions to address these challenges. From this perspective, organizations seeking a level of excellence must develop ways to reduce their negative social and environmental impacts (Bouhazza, 2018).

Section I: General Framework of the Study

1.1 Research problem

The study seeks to achieve the following objectives:

1-Formulate a general concept of sustainable project management.

2-Taking into account the principles of sustainability in the field of project management.

3-Know the expected effects of integrating sustainability principles into project management processes and activities.

In general, it can be said that studying the role of project management in achieving environmental sustainability in construction projects, especially in Makkah Al-Mukarramah because of its mountainous nature, faces multiple and complex challenges, and needs to identify appropriate priorities and procedures to achieve the desired results. (Complex environmental challenges - lack of time and resources - difficulty in determining responsibilities - lack of awareness of officials - implementation challenges)

Among them, the main question of the study was reached: How can the role of project management affect the achievement of environmental sustainability in construction projects in Makkah?

1.2 Research questions

The main question of the study: How can the role of project management affect the achievement of environmental sustainability in construction projects in Makkah?

In order to answer the main question, we must first answer these sub-questions:

How can a general concept of sustainable project management be formulated?

How can sustainability principles be taken into account in project management?

What are the expected implications of integrating sustainability principles into project management processes and activities?

1.3 Objectives of the study

The study seeks to achieve a set of general objectives, which is to formulate a general concept of sustainable project management. And take into account the principles of sustainability in the field of project management. Know the expected effects of integrating sustainability principles into project management processes and activities.

1.4 Curriculum

This study relied in its procedures on the descriptive analytical approach, which depends on collecting data from the study sample of (150) a group of managers and engineers working in a group of construction projects in Makkah, where the researcher will use this approach, which is the appropriate approach to the nature of this research and the objectives that it seeks to achieve and based on the nature of the information to be collected, and on the approach used in the research, and the time allowed.

1.5 Relevant previous studies

Study (Al-Ghamdi, 2019): "entitled "The Importance of Knowledge Management Relationship with Project Management, Process Integration and Project Success":

The study aimed to identify the impact of knowledge management in achieving process integration and project success. The descriptive approach relied on induction and data collection from previous books, studies and articles related to the research topic. The research study concluded that the models and frameworks proposed by the researchers to clarify the relationship between knowledge management and project management confirm the importance of employing cognitive processes in the ten cognitive areas of knowledge management projects and their ability to improve the project's chances of success. The results also confirmed that there is a strong relationship between knowledge management and project management and their integration in many aspects, which enhances the need to implement projects of all kinds in light of knowledge management in its various operations. The study suggested that project workers should be raised aware of the importance of knowledge management and the adoption of their processes during the project lifecycle through the implementation of workshops and relevant vocational training practices, in order to transfer, exchange and share knowledge.

A study (Al-Ghamdi, 2018) entitled "Elements of Integration and Success in Project Knowledge Management with a Project Management Proposal Model in the Project Environment."

This study aimed to explore the area of intersection between knowledge management and project management through different axes representing the objectives, which included the definition of the term project knowledge management and the extent to which it contributes to the success of projects and common models of knowledge management for the project. With a typical project management proposal, a descriptive and documentary approach was used. The study concluded that knowledge is an important organizational resource that must be effectively managed, and that knowledge of the project is a critical element for its success, and highlighted the relative scarcity of systematic research in this area, with a focus on the practical side of the project. The conceptual framework that separates it from the studio. He also presented a model proposal for knowledge management in the project environment that integrates key knowledge management processes with the overall project lifecycle. The study also recommends further empirical research in project knowledge management.

A study (Rashwan, 2021) entitled "Modeling E-Learning Interaction, Learner Satisfaction and Continuous Learning Intentions":

The importance of applying green manufacturing practices and integrating green supply chain management was recognized as they are modern and contemporary systems and the beneficial effects of applying these practices to the Organization represented in reducing defects and costs and reducing the depletion of natural resources. and environmental pollution, where the study concluded that there is a positive impact of green manufacturing practices on the sustainable performance of the companies under study. The integration variable for green supply chain management also plays the role of a complete mediator of the relationship between green manufacturing practices. and sustainable performance.

Study (Friday, 2021): entitled "Determinants of the application of green industrialization":

It tried to identify the most important determinants of the implementation of green manufacturing, whether they are driving forces or obstacles, and to identify the green manufacturing practices applied in textile companies, and the study concluded that green manufacturing companies for spinning and weaving do not do so. Implementing green production practices and that there are a number of driving forces whose ethics have been tested, including the lack of support from senior management only.

Study (2019, Leong et al) "Lean and green manufacturing a review on its applications and impacts"

It aims to identify the impact of the application of green and simplified manufacturing methodology in industry, application tools, obstacles to their application, and what are the application factors. Obstacles to the application of green manufacturing in small industrial projects.

Study, (Matthew, 2019): entitled "Linking sustainability theory and the practice of urban design":

linked sustainability theory to practical urban design practice by proposing ten overarching principles of sustainable urban design including; supporting strategies for conserving resources, biodiversity, promoting a strong sense of social justice, cohesion and identity; improving the quality of infrastructure, road network and pedestrian paths, and respecting existing cultural heritage, among others. Carmona jointly explained that the research work touched on the most important characteristics of sustainable urban sites. The study concluded by introducing the urban design process, the changes that have occurred in the city, the stages of urban design, practical applications and studies to solve the problems of urban spaces.

Study (Sabbagh, 2018): entitled "The Importance of Green Industrialization and its Impact on Transformation to a Green Processing Chain":

Identify the importance of green manufacturing and clarify the steps required to implement green manufacturing in a way that leads to better environmental performance. The objective was to identify the most important obstacles to the application of green manufacturing practices in small enterprises. The dimension most associated with green manufacturing compared to the rest of the series. The study concluded that the obstacles were ranked from highest to lowest, as follows: economic obstacles, and government support.

Study of (Hawl, 2016): entitled "Sustainable marketing as a mechanism to achieve the dimensions of sustainable development":

Its aim was to highlight the role of sustainable marketing in achieving the environmental, economic and social dimensions of sustainable development by adopting concepts that represent social responsibility, delivering the greenest product, and addressing the need for individuals and organizations to change their perceptions of responsibility. Consumption and social costs, as well as effective contribution to the economic

dimension through responsible marketing, whose role is summarized in the relationship with all parties and with society.

1.7 Comment on previous studies:

The novelty of the subject and the correlation between several variables. Clearly, this study was multilateral and relied on theories of sustainable planning. The ideas in the current study vary according to the goals it sought to achieve. Clarify the differences between modern planning trends and sustainable design considerations.

The current study has benefited from previous studies: Preparing the theoretical framework regarding the topics of the current study. Benefit from some previous studies in preparing the questionnaire of the current study. Take advantage of the recommendations of some previous studies to identify aspects that deserve study.

Section II: Theoretical framework of the study

2.1 Theories of sustainable planning.

Urban planning theories and mechanisms represent the basic reference for planning and evaluating housing projects. It deals with modern theories and is considered one of the important approaches to sustainable construction. Many planners and critics agree that traditional planning does not meet all the requirements for achieving sustainability. This has led to the deterioration of social, economic and environmental conditions, resulting in the emergence of cities with poor residential areas, slums and severe urban problems (Ahmed, 2017: 9).

Recent trends vary somewhat in the approaches and mechanisms by which they seek sustainability in housing designs, but share a wide range of sustainable design concepts and fundamentals and reflect them through the generation of urban ideas and models and creative and diverse architecture. Urban planning and design methods and standards that correspond to the socio-economic aspects and environmental needs of different regions.

2.1.1 Sustainable project management methods and tools:

The SDGs were based on transforming our world into a sustainable world through the 2030 Agenda for Sustainable Development, which was endorsed by world leaders in September 2015. In a historic international summit that entered into force in early 2016, where countries are working on it over the next fifteen years, taking into account the new sustainable development goals that apply to everyone globally, and mobilizing efforts to eradicate poverty in all its forms, address inequality and address climate change, while ensuring participation for all.

The global sustainability system is a three-dimensional system that includes environmental, economic and social dimensions, and therefore each dimension is not dealt with separately, but is implemented within an interactive and integrated framework characterized by accuracy, accuracy and resource conservation. As shown in the figure (Mountain, 2020).

2.1.2 Sustainability dimensions:

The social dimension includes (justice - sustainability - compatibility) and in the economic dimension includes (justice - sustainability - application) and in the environmental dimension includes (compatibility - sustainability - application).

2.1.3 Sustainability characteristics:

Social and cultural characteristics: Obtaining continuity and communication in the development process in all its fields to achieve the desired growth.

Economic characteristics: the use and preservation of natural resources in a way that guarantees the right to them for future generations.

Environmental planning and design: Balancing and maintaining the integrity of natural life and producing renewable resources, with equitable use of non-renewable resources.

Integration and exchange between three basic dimensions: economic, social, and environmental as a basic system for integrated development. The following figure illustrates the stages of development of the concept of sustainability and its relationship to urban planning and design.

2.2 Sustainable design of housing projects

2.2.1 Human design:

Researchers gather to consolidate the principles of sustainability in the design process and direct the attention of specialists to the sustainable design process, which is based on the concept of the project life cycle or on the concept of systems, integrated studies and relationships between parts of systems, and four basic principles have been identified to achieve sustainability in the design process: the human dimension, the spatial dimension, the interface and economic feasibility. (Al-Kinani, 2019)

2.2.2 Spatial design:

Any sustainable design begins with the study of the site, the study of the elements of the site, the physical components, uses, activities, and the actual elements of the union between different elements and components, as well as the strength of the connection to nature and nature. Sustainability aims to integrate the building with its built environment, the services available, the search for places where humans can live, as well as providing a safe, comfortable, diverse and diverse residential environment, and providing more opportunities for people. To meet and enjoy the place (Walid, 2020).

2.2.3 Economical design:

Housing projects require a study of the economic and practical feasibility of the project and its suitability for all groups. The economic feasibility of the project varies from one location to another as a result of a number of factors, the most important of which are demand and supply in the real estate market and the possibility of payment to study its impact on the feasibility of the project. The project project, which forms the basis for the initial designs and tests of the project's chances of success (Al-Jabali, 2020).

2.2.4 Sustainability and urban housing

The concept of sustainability in housing goes beyond the narrow scope of the home in its traditional concept of the refuge in which man lives, towards a set of interrelated elements that are broader and more complex than the concept of a building as a physical component that expresses "sustainable construction, to also include social, economic and environmental areas, all urban areas and infrastructure as an integrated system and approach to sustainable life and human well-being. This understanding of housing helps to apply the concept of sustainability (Wafa, 2015).

2.3 Integrate environmental sustainability into project management

A traditional project management model that relies on time, cost and quality control implies a level of predictability and control that is meaningless in light of the changes assumed from a global and long-term perspective. These changes and their effects are most likely not fully understood and difficult to control.

Behind the aforementioned change in scope and methodology lies the way in which the project manager sees himself as the central hub of project management. In the traditional approach, project managers tend to serve entrepreneurs and do exactly what is asked of them. They see themselves as focal points with the project sponsor and manage the project team in terms of scope, stakeholders, deliverables, budget, risk and resources.

In the application of sustainability concepts in organizations and companies. Changing this responsibility changes the role of project managers and therefore the profession. Mainstreaming sustainability therefore requires project managers to evolve as specialists in sustainable development and act as partners and fellow stakeholders. (Ahmed, 2017: 40-42).

Section III: Practical Framework of Study

3.1 An overview of the study curriculum and sample

This study relied in its procedures on the descriptive analytical approach, which depends on collecting data from a simple random sample of the research community of (150) The questionnaire will be used as a study tool to collect data and then presented to the project supervisor and approved and converted into an electronic version.

3.2 Hypothesis testing

* The first hypothesis: There are challenges facing project management in achieving environmental sustainability in construction projects in Makkah Al-Mukarramah because of its mountainous nature, and this is represented in the difficulty of setting priorities and appropriate procedures, and the lack of time and resources, and analyzing the challenges facing project management in this regard, and providing the necessary recommendations to improve the future performance of project management in achieving environmental sustainability in construction projects.

3.3 Authenticity of the tool used in the present study

All correlation coefficients for the study axes with the total are strongly high and range between 0.874 and 0.944 and all of them are statistically significant, which indicates the existence of the sincerity of internal consistency of the study axes.

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All correlation coefficients for the study axes with the total are strongly positive and range between 0.742 and 0.852.

Table (1) Sample Distribution According to Demographic Variables (Age-Years of Experience and Job Title) (n=150)

	R	**%**
Age Stage		
less than 25 years old	4	2.7
From 26 to less than 30	11	7.3
From 31 to less than 35	10	6.7
From 36 to less than 40	43	28.7
From 41 to less than 45	41	27.3
More than 45 years	41	27.3
Years of Experience		
Less than 5 years	15	10
From 5 years to less than 10 years	16	10.7
From 11 years to less than 15 years	54	36
More than 15 years	65	43.3
Job Title		
Project Manager	54	36
Executive Engineer	36	24
Other functions	60	40

Table (2): Evaluation of the level of the study axes in the study sample (n = 150)

		Level			Items	Score	
		Weak	Average	High		Range	Mean±SD
Worksite sustainability	ك	76	48	26	9	9-45.	24.467±9.213
	%	50.7%	32.0%	17.3%			
Website development	ك	84	40	26	3	3-15.	7.727±3.192
	%	56.0%	26.7%	17.3%			
Energy efficiency	ك	69	55	26	8	8-40.	21.367±8.536
	%	46.0%	36.7%	17.3%			
Indoor environmental quality	ك	65	52	33	8	8-40.	22.020±8.653
	%	43.3%	34.7%	22.0%			
Water use efficiency	ك	84	36	30	3	3-15.	7.953±3.560
	%	56.0%	24.0%	20.0%			
components of urban space	ك	71	47	32	5	5-25.	13.553±5.409
	%	47.3%	31.3%	21.3%			
urban space elements	ك	73	50	27	7	7-35.	18.900±7.585
	%	48.7%	33.3%	18.0%			
urban design standards	ك	66	50	34	6	6-30.	16.533±6.838
	%	44.0%	33.3%	22.7%			
Total	ك	69	57	24	49	49-245.	132.520±49.268
	%	46.0%	38.0%	16.0%			

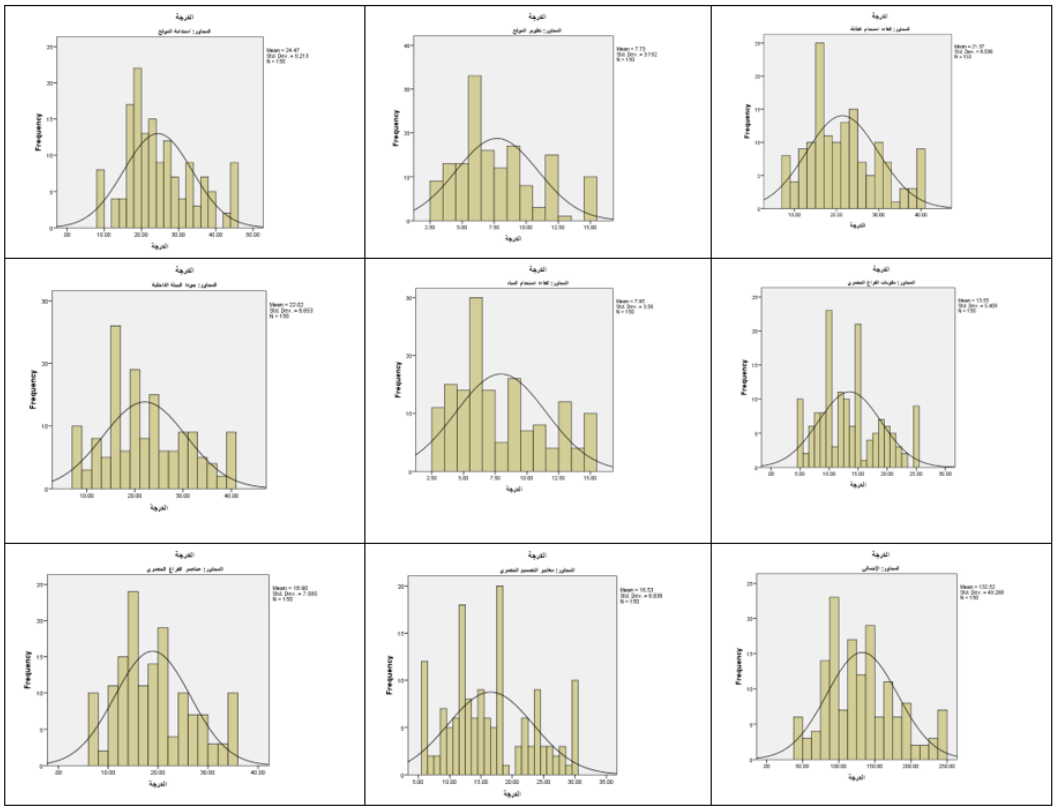

Table (3): Study of the relationship between age and the study axes in the study sample (n = 150)

		Age						ANOVA	
		<25	26-30	31-35	36-40	41-45	>45	F	P-value
Worksite sustainability	**Mean**	28.50	27.55	30.00	26.21	21.24	23.29	2.712	0.023*
	SD	6.76	4.80	8.34	10.00	8.58	9.25		

Website development	**Mean**	8.00	8.00	9.80	8.30	7.00	7.24	1.806	0.115
	SD	2.83	2.45	3.46	3.37	2.97	3.19		
Energy efficiency	**Mean**	24.25	24.18	22.70	23.37	18.88	20.39	1.697	0.139
	SD	7.68	5.04	6.15	9.42	7.79	9.12		
Indoor environmental quality	**Mean**	24.50	25.09	24.90	23.98	19.07	21.15	2.115	0.067
	SD	7.37	5.61	9.18	9.45	6.99	8.11		
Water use efficiency	**Mean**	12.25	7.91	10.20	8.49	7.00	7.39	3.163	0.010*
	SD	1.50	2.43	3.43	3.78	2.98	3.79		
components of urban space	**Mean**	17.00	13.36	16.90	15.00	11.76	12.73	2.990	0.013*
	SD	4.76	2.91	5.74	5.55	4.74	5.71		
urban space elements	**Mean**	22.50	19.64	22.60	20.42	16.24	18.51	2.126	0.066
	SD	7.94	5.77	7.85	7.93	6.58	7.95		
urban design standards	**Mean**	22.25	17.73	20.60	18.26	13.95	15.44	3.536	0.005*
	SD	3.10	4.76	6.64	7.49	5.66	6.92		
Total	**Mean**	159.25	143.45	157.70	144.02	115.15	126.15	2.628	0.026*
	SD	35.64	22.94	41.71	52.85	44.58	52.41		

It is clear from the table (3) that there is a statistically significant relationship between the axis of site sustainability and age, as the significance value is less than the level of significance 0.05 and the degree rises with the lower ages and decreases for the large age groups, meaning that the relationship is inverse as well as the axis of water use efficiency and components of urban space and urban design standards and also the total, while there is no relationship with the rest of the axes, as the significance values are greater than the level of significance 0.05.

Table (4): Study the relationship between years of experience and study axes in the study sample (n = 150)

		Years of experience				**ANOVA**	
		<5	**5-10**	**11-15**	**>16**	**F**	**P-value**
Worksite sustainability	**Mean**	28.87	29.19	22.07	24.28	3.990	0.009*
	SD	6.93	8.04	8.92	9.55		
Website development	**Mean**	8.53	9.38	7.06	7.69	2.623	0.053
	SD	2.72	3.16	2.82	3.46		
Energy efficiency	**Mean**	25.00	23.06	20.20	21.08	1.490	0.220
	SD	6.86	6.24	8.29	9.40		
Indoor environmental quality	**Mean**	26.47	25.13	19.76	22.11	3.394	0.020*
	SD	7.78	8.19	7.82	9.13		
Water use efficiency	**Mean**	9.47	9.75	7.33	7.68	3.060	0.030*
	SD	3.36	3.44	3.17	3.77		
components of urban space	**Mean**	15.00	16.81	12.22	13.52	3.559	0.016*
	SD	4.71	5.31	4.74	5.78		
urban space elements	**Mean**	21.27	23.31	16.80	19.02	3.896	0.010*
	SD	7.34	6.47	6.65	8.11		
urban design standards	**Mean**	19.33	21.69	14.72	16.12	5.702	0.001*
	SD	5.35	6.12	6.33	7.01		
Total	**Mean**	36.66	35.90	46.54	53.46	3.743	0.013*
	SD	35.64	22.94	41.71	52.85		

It is clear from the table (4) that there is a statistically significant relationship between the axis of site sustainability and years of experience, as the value of significance is less than a significant level of 0.05. Urban space, elements of urban space, urban design criteria, and the total, while there is no relationship with the rest of the axes, as the significance values are greater than the level of significance 0.05.

Table(5): Study of the relationship between the job title and the study axes in the study sample (n = 150)

	Years of experience						ANOVA	
	Project Manager		Executive Engineer		Other jobs			
	Mean	SD	Mean	SD	Mean	SD	F	P-value
Worksite sustainability	21.07	8.8	22	6.71	29	9.11	14.414	<0.001*
Website development	6.76	3.22	7.33	2.61	8.83	3.2	6.861	<0.001*
Energy efficiency	18.31	7.63	20.72	7.84	24.5	8.74	8.345	<0.001*
Indoor environmental quality	18.15	7.74	20.44	7.32	26.45	8.26	16.807	<0.001*
Water use efficiency	7.06	3.49	7.33	3	9.13	3.65	5.926	0.003*
components of urban space	11.78	5.04	12.11	4.48	16.02	5.37	11.941	<0.001*
urban space elements	16.39	7.02	16.89	6.14	22.37	7.63	12.048	<0.001*
urban design standards	14.04	6.08	14.42	5.48	20.05	6.79	15.910	<0.001*
Total	113.56	46.33	121.25	39.87	156.35	47.69	14.057	<0.001*

It is clear from Table (5) that there is a statistically significant relationship between the axes of the study and the variable of job title, as all significance values are less than a significant level of 0.05, where the grades rise with other jobs and fall with project managers and executive engineers.

Part IV: Conclusions and recommendations:

4.1 The results of this study can be summarized as follows:

It was clear from the results when studying the relationship between age and the axes of the study in the study sample that there is a statistically significant relationship between the axis of site sustainability and age, as the significance value is less than a significant level of 0.05 and the degree rises with the lower ages - and decreases for large age groups, meaning that the relationship is inverse as well as the axis of water use efficiency, urban space components, urban design standards, and also the total, while there is no relationship with the rest of the axes, as the significance values are greater than the level of Moral 0.05.

The results showed when studying the relationship between the years of experience and the axes of the study that there is a statistically significant relationship between the axis of site sustainability and years of experience, as the value of significance is less than a significant level of 0.05 and the degree rises with the least experience and decreases for those who have greater experience, meaning that the relationship is inverse as well as the axis of internal environmental quality, water use efficiency, components of urban space, elements of urban space, urban design standards, and also the total, while there is no relationship with the rest of the axes. Where the significance values are greater than the level of significance 0.05.

It became clear from the results when studying the relationship between the job title and the study axes that there is a statistically significant relationship between the study axes and the job title variable, as all significance values are less than a significant level of 0.05, where the scores rise with other jobs and fall with project managers and executive engineers.

4.2 Recommendations reached by the researcher:

Through these findings of the study, a set of recommendations can be made, which are as follows:

Various construction projects should try to move towards integrated and sustainable social responsibility, especially since the needs of the times and the global trend towards sustainability in all aspects of life require not to focus on one aspect over the other, but must have an integrated approach vision. For the sustainability of construction projects.

An Arab partnership for the construction projects sectors is necessary to achieve sustainability within an organized sustainability network that works to follow up and implement sustainable development goals and benefit from the experiences and knowledge of the Gulf countries, especially since the Gulf countries share a common identity and enjoy high rates in achieving sustainable development goals.

Governments must actively engage in spreading the culture of integrated sustainable development on a large scale and increase the participation of various segments of society and stakeholders in achieving the SDGs, especially as achieving the SDGs would be mutually beneficial.

References

First: Arabic References

Bouhaza Mohamed and Ben Sedira, "Foreign Direct Investment as a Strategy for Sustainable Development", International Scientific Conference: Sustainable Development and Efficiency of Available Resources, Ferhat Abbas University, Faculty of Economics and Management Sciences, Setif, 7-8 April 2018, p. 298

Juma, Shurooq. (2021). "Determinants of the application of green manufacturing, a field study on textile companies in the Tenth of Ramadan City", Master's thesis, Faculty of Business, Ain Shams University.

Rashwan, Ahmed (2021). "The Impact of Green Manufacturing Practices on Sustainable Performance The Mediating Role of Green Supply Chain Management Integration: An Applied Study on Industrial Companies in Egypt", Scientific Journal of Financial and Commercial Studies and Research, Faculty of Commerce, Damietta University, pp. 410-440.

Samia Lahoul (2016), "Sustainable Marketing as a Mechanism to Achieve the Dimensions of Sustainable Development", Journal of Economic Studies, p. (1), Faculty of Economic, Commercial and Facilitation Sciences, University of Constantine, Algeria.

Sabbagh, Azzam Abdel Wahab. (2018) "The Importance of Green Industrialization and its Impact on the Transition to a Green Supply Chain in the State Company for Battery Manufacturing - Iraq", Journal of the Baghdad College of Economic Sciences, Issue 90-69.55

Ali Salama Ahmed, (2017) "The Problem of Theorizing the Contemporary Arab City, the Residential Neighborhood between Annexation and Expansion", Al-Azhar International Engineering Conference, Al-Azhar University, Cairo.

Al-Ghamdi, Abdulsalam Mohammed (2019). "The importance of the relationship of knowledge management with project management process integration and project success. " Arab Conference Network (Tenth Scientific Conference). Turkey.

Al-Ghamdi, Abdullah and Al-Jaber, Ali. (2018) "Elements of integration and success in project management with a proposed model for knowledge management in the enterprise environment Arab Conference Network" (Ninth Scientific Conference). Turkey.

Al-Kinani Hassan bin Abdullah, "Sustainability in Islamic Urbanism", Master's Thesis in Architecture and Building Sciences, College of Architecture and Planning, King Saud University, Riyadh, Saudi Arabia, 2019.

Wafa Naji Al-Astal, (2015) "The Impact of Pedestrian Street Design on the Sustainability of Urban Areas: A Case Study (Khan Yunis City Center) ". Master Thesis - Department of Architecture - Islamic University - Gaza - Palestine

Walid Samir Abdel Azim Al-Jabali, (2020) "The impact of using financial standards for sustainability accounting on improving accounting disclosure and enhancing investor confidence" - an applied study on commercial banks. https://atasu.journals.ekb.eg/article_97432_66a83414cdfcb981e1ac5b3393b90d9e.pdf

Second: Foreign References

Leong, W. et al. (2019). "Lean and green manufacturing a review on its applications and impacts", Process Integration and Optimization for Sustainability, Vol. 3, No. 5, pp. 5-23.

Matthew Carmona,)2019((Sustainable Urban Design Principles to Practice). Journal of Sustainable Development, 12(1), pp.48-77.